

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. Claims 13 and 28 are being canceled, without prejudice.

Claims 34-48 are being added.

1. (Currently Amended) A method of extracting toner from toner cartridges, said method including the steps of:
 - breaking up toner cartridges by a shredder into pieces to release toner from within the cartridges;
 - extracting air from a hopper of the shredder to collect toner particles released from the broken up cartridges;
 - passing the cartridge pieces over a sifting barrier so that only particles under a predetermined size pass through the barrier;
 - agitating the pieces to mobilize the toner;
 - extracting air from adjacent the agitated pieces to remove airborne particles; and
 - removing toner from the air extracted from adjacent the pieces.
2. (Previously Presented) The method according to claim 1 including the further step of recovering the toner for recycling.
3. (Previously Presented) The method according to claim 1 including the further step of introducing ionized air adjacent the pieces.
4. (Previously Presented) The method according to claim 1 whereby agitating the pieces involves repeatedly lifting and dropping the pieces.
5. (Previously Presented) The method according to claim 1 whereby a trammel is used to agitate the pieces.
6. (Previously Presented) The method according to claim 5 whereby the trammel includes an inner drum adapted to rotate about its longitudinal axis and an outer cover, the inner drum having a plurality of apertures and functioning as a separation screen so that only particles under a predetermined size pass through the screen and into the outer cover.

7. (Previously Presented) The method according to claim 6 whereby air is extracted from within the outer cover to encourage particles under a predetermined size to pass through the apertures in the inner drum.
8. (Previously Presented) The method according to claim 1 whereby the sifting barrier is a vibrating screen.
9. (Previously Presented) The method according to claim 8 whereby the vibrating screen is substantially enclosed by a casing and air is extracted from the casing through the vibrating screen to encourage particles under a predetermined size to pass therethrough.
10. (Previously Presented) The method according to claim 8 whereby the vibrating screen slopes downwardly on an angle from the horizontal of between 5° and 20°, to encourage the pieces to move over the screen.
11. (Currently Amended) The method according to claim 1 whereby the cartridges are broken up by [[a]] shredder operating at approximately 26 rpm.
12. (Previously Presented) The method according to claim 11 whereby the shredder employs twin rollers to break up the cartridges.
13. (Canceled)
14. (Previously Presented) The method according to claim 1 including the further step of filtering air extracted from adjacent the pieces to remove particles under a predetermined size.
15. (Previously Presented) The method according to claim 14 whereby the air extracted from adjacent the pieces is passed through a classification column to separate toner powder from impurities.
16. (Previously Presented) The method according to claim 1 including the further step of collecting the cartridge pieces for recycling.
17. (Previously Presented) The method according to claim 16 including the further step of sorting the cartridge pieces into ferrous metals and non-metals/plastics.

18. (Currently Amended) An apparatus for extracting toner from toner cartridges including:
a shredder including a shredder hopper, the shredder for breaking up toner cartridges into pieces and to thereby release toner from within the cartridges;
at least one air duct extending from the shredder hopper to extract airborne particles from within the shredder hopper;
a sifting barrier for sifting the cartridge pieces so that only particles under a predetermined size pass through the barrier;
agitation means to agitate the pieces and mobilize the toner;
an extractor for extracting air from around the sifting barrier to remove airborne particles; and
a toner collector for removing toner from the air extracted by the extractor.
19. (Previously Presented) The apparatus according to claim 18 including an ionizer for introducing ionized air into the apparatus.
20. (Previously Presented) The apparatus according to claim 18 wherein the agitating means repeatedly lifts and drops the pieces.
21. (Previously Presented) The apparatus according to claim 18 wherein the agitating means it is a trammel.
22. (Previously Presented) The apparatus according to claim 21 wherein the trammel includes an inner drum adapted to rotate about its longitudinal axis and an outer cover, the inner drum having a plurality of apertures and functioning as a separation screen so that only particles under a predetermined size pass through the screen into the outer cover.
23. (Previously Presented) The apparatus according to claim 22 wherein the extractor extracts air from within the outer cover to encourage particles under a predetermined size to pass through the apertures in the inner drum.
24. (Previously Presented) The apparatus according to claim 18 wherein the sifting barrier is a vibrating screen.
25. (Previously Presented) The apparatus according to claim 24 wherein the vibrating screen is substantially enclosed by a casing and the extractor extracts air from the casing

through the vibrating screen to encourage particles under a predetermined size to pass therethrough.

26. (Previously Presented) The apparatus according to claim 24 wherein the vibrating screen slopes downwardly on an angle from the horizontal of between 5° and 20°, to encourage the pieces to move over the screen.
27. (Previously Presented) The apparatus according to claim 18 wherein the shredder employs twin rollers to break up the cartridges.
28. (Canceled)
29. (Previously Presented) The apparatus according to claim 18 including a classification column to separate toner powder from impurities.
30. (Previously Presented) The apparatus according to claim 18 including the further step of collecting the cartridge pieces for recycling.
31. (Previously Presented) The apparatus according to claim 30 including a magnetic separator or sorting the cartridge pieces into ferrous metals and non-metals/plastics.
32. (Previously Presented) A method of extracting toner from toner cartridges, said method including the steps of:
breaking up toner cartridges into pieces to release toner from within the cartridges;
extracting air from adjacent the broken up pieces to remove airborne particles;
introducing ionized air adjacent the pieces;
passing the cartridge pieces over a sifting barrier so that only particles under a predetermined size pass through the barrier;
agitating the pieces to mobilize the toner;
extracting air from adjacent the agitated pieces to remove airborne particles; and
removing toner from the air extracted from adjacent the pieces.
33. (Currently Amended) An apparatus for extracting toner from toner cartridges including:
a shredder including a shredder hopper, the shredder for breaking up toner cartridges into pieces and to thereby release toner from within the cartridges;

at least one air duct extending from the shredder hopper to extract airborne particles from the shredder hopper;

an ionizer for introducing ionized air into the apparatus;

a sifting barrier for sifting the cartridge pieces so that only particles under a predetermined size pass through the barrier;

agitation means to agitate the pieces and mobilize the toner;

an extractor for extracting air from around the sifting barrier to remove airborne particles; and

a toner collector for removing toner from the air extracted by the extractor.

Please add the following new claims:

34. (New) The method according to claim 1 wherein passing the cartridge pieces over a sifting barrier includes vibrating the sifting barrier at a first frequency and agitating the pieces is performed at a second, lower frequency.

35. (New) The method according to claim 18, wherein the sifting barrier is vibrated at a first frequency and the agitation means operates at a second, lower frequency.

36. (New) The method according to claim 1 further comprising:
isolating vibrations caused by the shredder from other structural components; and
isolating movement of the shredder.

37. (New) The method according to claim 18, wherein the shredder is isolated from other components of the apparatus and further including one or more isolation mechanisms coupled to the shredder and configured to isolate movement of the shredder.

38. (New) The apparatus according to claim 18 wherein the shredder operates at approximately 26 rpm.

39. (New) The method according to claim 1 further comprising preventing air from passing between edges of the sifting barrier and the shredder and substantially preventing vibrations from passing from the shredder to the sifting barrier.

- 40. (New) The apparatus according to claim 18 further comprising a seal disposed between the shredder and sifting barrier, the seal substantially preventing vibrations from passing from the shredder to the sifting barrier.
- 41. (New) The method according to claim 1 further comprising feeding back information identifying the toner cartridges being broken up.
- 42. (New) The method according to claim 41 wherein feeding back information includes reading a barcode disposed on the toner cartridge.
- 43. (New) The method according to claim 18 further comprising means for identifying the toner cartridges being broken up.
- 44. (New) The apparatus according to claim 18 wherein the agitation means is a drum having longitudinal ribs positioned on an inside surface of the drum.
- 45. (New) The apparatus according to claim 18 wherein the drum includes small protrusions positioned on an inside surface of the drum.
- 46. (New) The method according to claim 18 further comprising a casing extending over, around the lateral sides, and to the bottom of the sifting barrier.
- 47. (New) The method according to claim 32 wherein breaking up toner cartridges is performed by a rotating member operating at approximately 26 rpm.
- 48. (New) The apparatus according to claim 33 wherein the shredder operates at approximately 26 rpm.